

## Unit 3 - Taking Action: Brainstorming and Planning

*This lesson is designed to help students identify potential actions they could take and then help them plan to take those actions.*

NGSS connections: **Practices:** Asking Questions and Defining Problems; Planning and Carrying Out Investigations; Analyzing and Interpreting Data; Obtaining, Evaluating, and Communicating Information; Engaging in Argument from Evidence; Constructing Explanations and Designing Solutions; **CCCs:** Patterns; Cause and Effect; Systems and System Models; **DCI:** HS-ETS1-1.

### Starting point for instructors

- Recap your previous lessons -- “We have discussed \_\_\_\_\_. And the question is: ‘Now what?’”
- This unit used to end after learning about the problem of underrepresentation and societal inequality. The students, rightfully, challenged us instructors to do better. This lesson’s emphasis is on finding balance between being problem-focused enough to motivate students to act and being solution-focused enough that they feel able to get started.
- Some of the activities below could be implemented outside of class time or on an online discussion board platform. Alternatively, you could choose to spend a great deal of time working collaboratively in class!
- Do [Unit 0 - Setting the Stage](#) before this, and review norms if needed.

### Pre-Lesson Student Exploration / Bell-Ringer

*Before coming to class/at the start of class, consider asking students to answer some or all of the following questions:*

Now that we have learned about [insert topics previously discussed in your implementation here], what do we want to do next?

- Look through your previous journal entries and/or reflect on the previous lessons from this unit.
- Look through this link: <https://www.benjerry.com/values/issues-we-care-about>.
- [Actions don’t have to be large, public protests and rallies; they can be small things to pass on knowledge or to encourage others](#). Let’s use our knowledge to do something. Answer the following:
  - What things around your school/in your community/around the globe should change?
  - What social issues do you want to focus on now? They don’t have to be global or city-wide in scale.
- What are examples of people who have affected change? Write a paragraph for the following:
  - What are ways in which you personally have some sort of institutional power/influence?
  - In contrast, where would you like to increase your influence or power?
- Where does STEM/school/life fit into these pictures? What can we do for our communities to redistribute power more equitably?



- Brainstorm ideas about how students might contribute to changing the culture of STEM. Come to class prepared to share ideas and take action.

## In-Class Investigations

*What do we want to do now? [30-60 minutes]*

To enable all students to participate actively in identifying actions that they could take, you can hang four large sheets of paper (or use whiteboards) around the room, with the following titles:

1. What resources do I have to make change? ([example](#))
2. How can I leverage my resources for change? ([example](#))
3. What can we do to address systems of harm here at school? Elsewhere? ([example](#))

*[You can add 'But what about...?' lower on the poster to give space for complexity.]*

Encourage students to write their thoughts below the questions. They can add a star (☆) to comments that they agree with, and use an arrow (→) to connect comments.

Two modes of engagement have proven to be successful:

- Encourage, but don't require, that students work silently, and remind them to loop back to sheets they haven't seen in a while; they sometimes find that someone has responded to their comment, and are motivated to continue the conversation.
- Split the class into small groups, and rotate through the posters silently with the same group. After a full rotation through the questions, students repeat the process but this time they are free to talk to their group and add responses to the existing comments.

At the end, gather around the sheets and discuss what has been written. Consider asking:

- What do you notice?
- Which ideas seemed to generate the most conversation?
- Do any of these ideas feel particularly exciting to you?
- Was there anything about this exercise that surprised you?

Especially when students have been silent until now, the conversation that results is often powerful.

Of all these questions, the first ("what resources do I have?") can be most difficult for students. Sometimes mentioning examples of resources can support their brainstorming: communication skills, life experience, sense of humor, empathy, relational skills, self awareness, privilege, influence, etc.

Here are a few [examples](#) that students from a private, predominantly white high school have generated. Your students' ideas may look very different.

### **Instructor Note:**

Encourage students to focus on what *they* can do. Sometimes they write about what others can do, which is valuable, but not the focus here. Make sure that students notice that two sheets are individual "I" and two are collective "we" (encouraging us to move from individual thinking to collective action).



### *Planning Actions [20-30 minutes]*

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There are an infinite number of ways that students could take action around issues of underrepresentation and social justice. Given your own context and constraints, we have organized follow-up activities into two groups: one where instructors have a bit more control over the focus of the activity and the other where students take the lead in deciding length and depth of actions.

#### [Unit 3 - instructor-led Action Projects](#)

These are potentially shorter, instructor-led activities that involve the whole class working towards a similar goal.

#### [Unit 3 - Student-led Action Projects](#)

These are potentially longer, student-led activities that may involve individual work, or small group work, and extend beyond the classroom time as homework or longer-term projects.

We're always looking for more project ideas. Please contact [underrepSTEM@gmail.com](mailto:underrepSTEM@gmail.com) to contribute.

### **Post-Unit Homework**

*At the end of the unit, several options for reflection and feedback are available.*

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Depending on how many of these lessons you've done, it is likely valuable to look back and recap all of the progress and good that has come from this unit. This supports students in remembering and connecting the dots to form stronger motivations for future action.

Creating extensive evaluations for students, especially if you are new to facilitating conversations about equality; can support the instructor's growth. These can be made anonymous to give more space for open communication. We encourage instructors to solicit feedback by asking students to complete:

- an [anonymous post-survey](#) about their own identity and beliefs.
- an anonymous [post-unit evaluation of the project](#) as you implemented it - this gives you information about how to improve your teaching.
- a self evaluation of their own learning. Here is an example of one instructor's (non-anonymous) [post-unit student self evaluation](#). Reflection is a valuable platform for student learning as well!

**Please make a copy before using any of the evaluations provided here.**

### **Resources**

- [Lesson Plan Resources](#)



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